hydrodynamic model to determine the size of the granular cover material that will be stable for a given current velocity.

Equation 2 from Maynord (1998) is:

$$D_{50} = S_f C_s C_v C_T C_G d \left[ \left( \frac{\gamma_w}{\gamma_s - \gamma_w} \right)^{\frac{1}{2}} \frac{V}{\sqrt{K_1 g d}} \right]^{2.5}$$

Where:

$D_{50}$ = median particle size in feet

$S_f$ = safety factor

$C_s$ = stability coefficient for incipient failure

$C_V$ = velocity distribution coefficient

$C_T$ = blanket thickness coefficient

$C_G$ = gradation coefficient = $(D_{85}/D_{15})^{1/3}$

$D_{85}/D_{15}$ = gradation uniformity coefficient

D = water depth in feet (from the hydrodynamic model)

$\gamma_s$ = unit weight of stone

$\gamma_w$ = unit weight of water

V = maximum depth-averaged velocity in feet per second (from the hydrodynamic model)

$K_1$ = side slope correction factor

g = acceleration due to gravity

Flood velocities output from the hydrodynamic model were used in conjunction with this equation to determine the approximate material sizing required to withstand the 100-year flow conditions within each AOPC. Again, this analysis was conducted on an AOPC spatial scale, given the exact areas of caps within SMAs and subSMAs will not be determined until remedial design. Output was provided for each model cell, with corresponding stable particle sizes then mapped to each AOPC to determine necessary cap material sizing. Table 4-12 presents a summary of the range of flow velocity